



Transfer spout above bins in grain elevator of A. E. Staley Mfg. Co., Decatur, Ill.

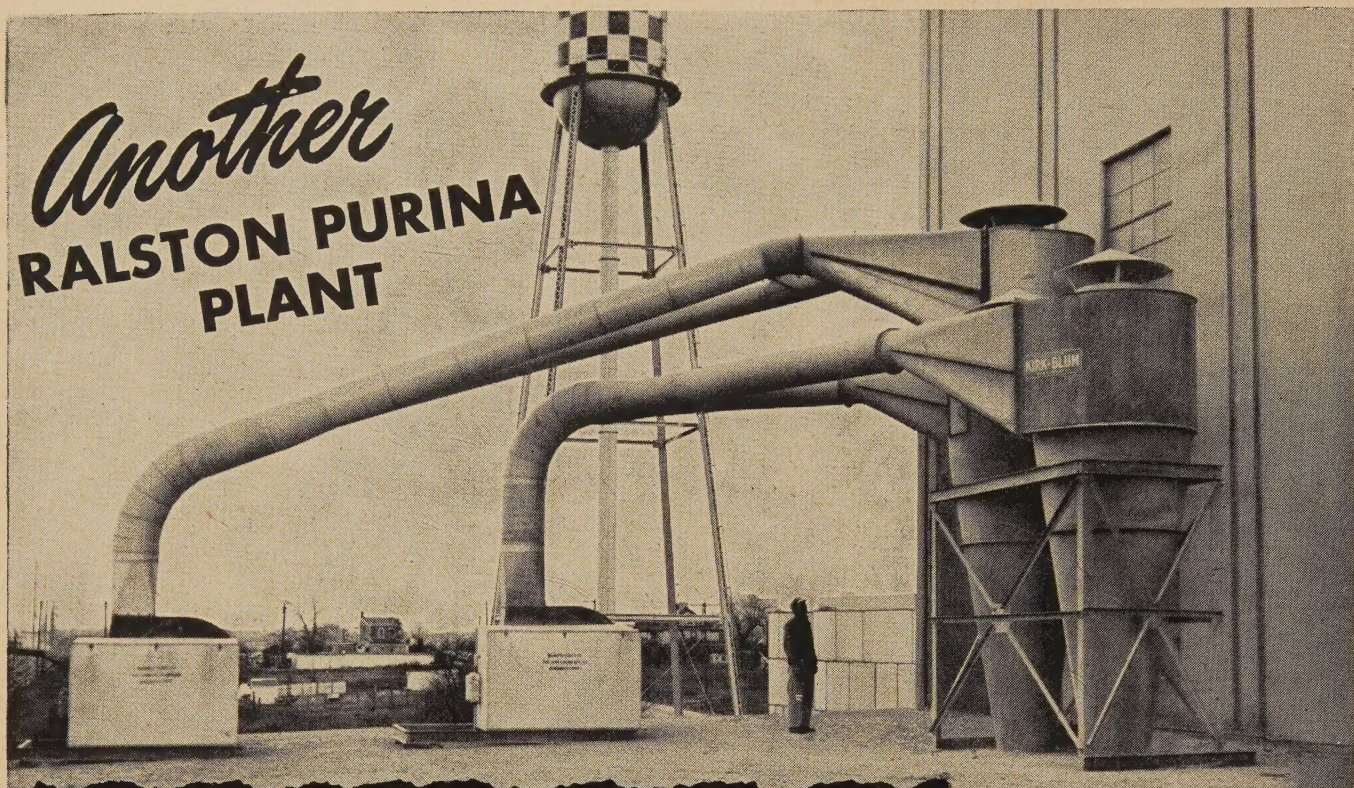
# GRAIN

APRIL, 1950

THE MAGAZINE OF PLANT MANAGEMENT AND OPERATION



# Another RALSTON PURINA PLANT



## Selects KIRK and BLUM DUST CONTROL INSTALLATION

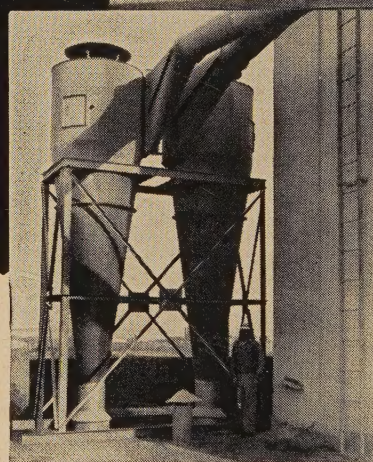
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OR REPLACEMENT SYSTEM,  
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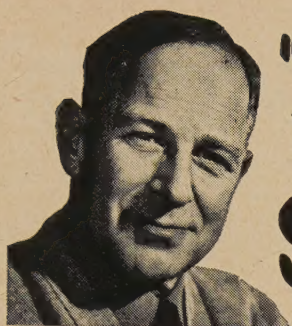
FOR CLEAN AIR . . .

THE INVISIBLE TOOL

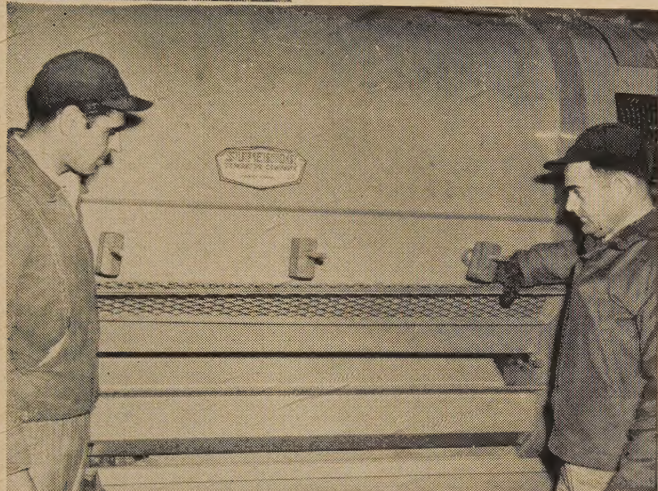
**KIRK AND BLUM**  
DUST CONTROL SYSTEMS

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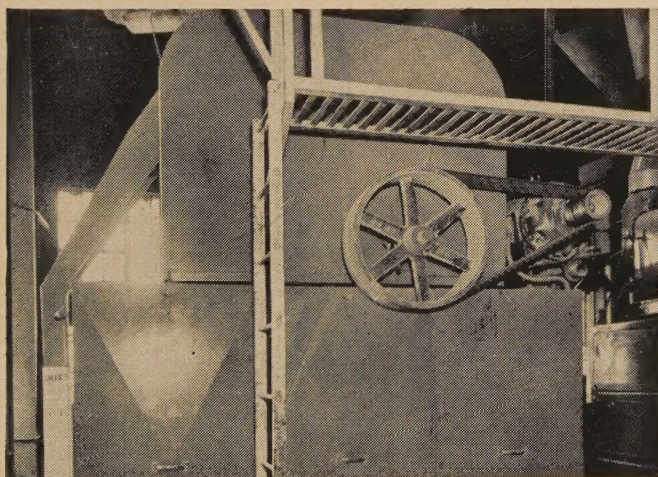




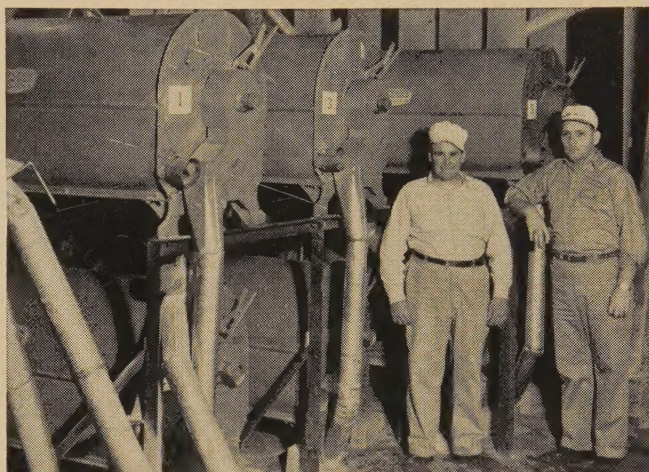
"Ask the men who operate them...why  
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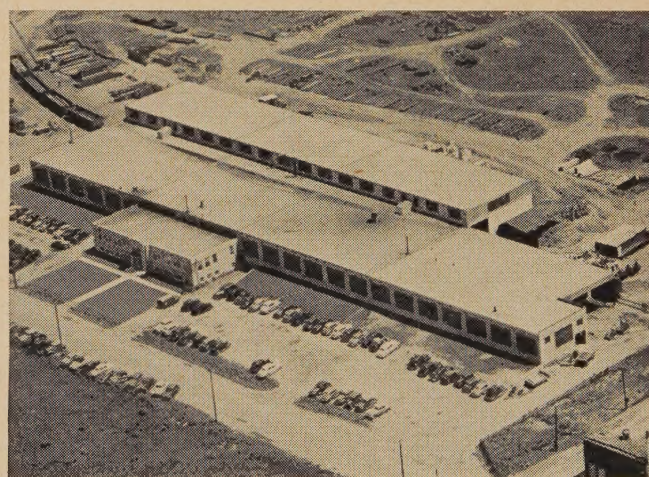
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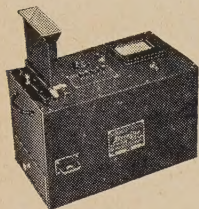
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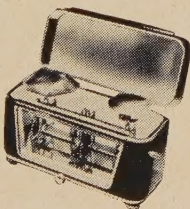
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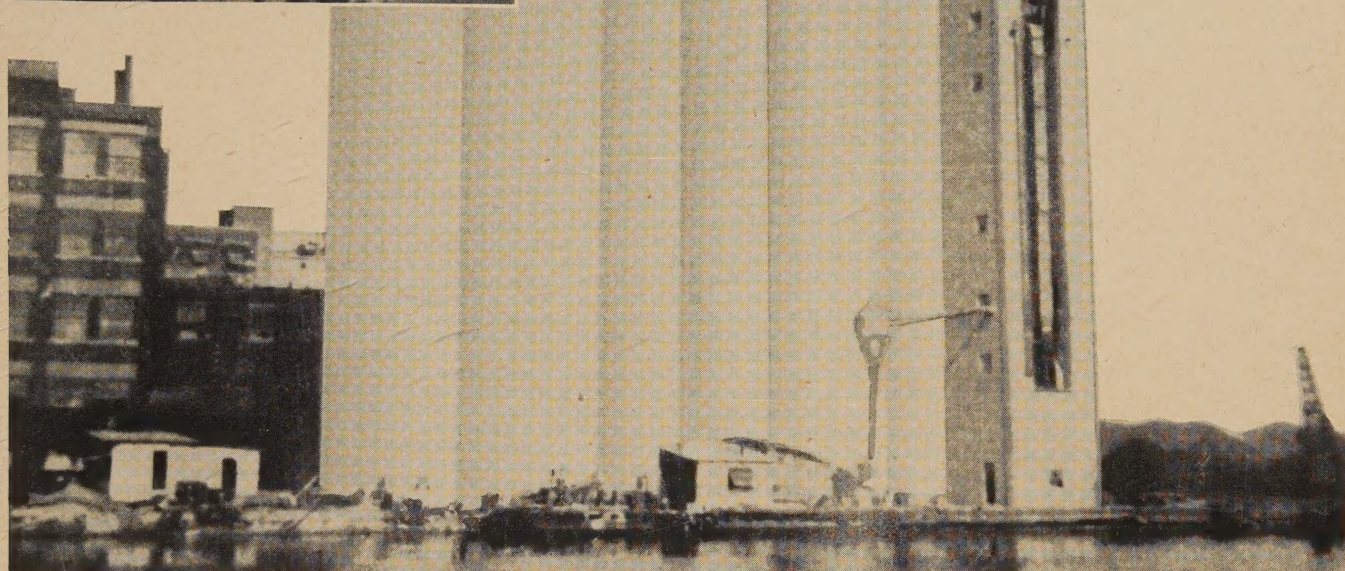
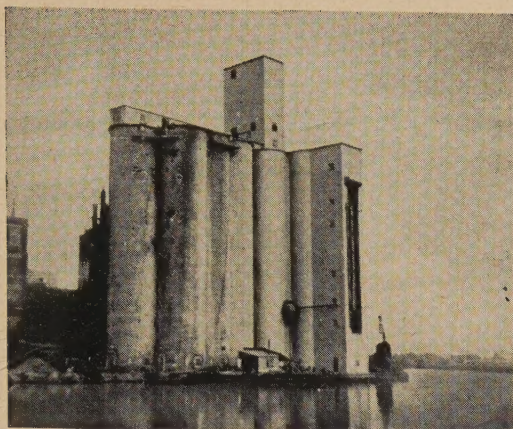
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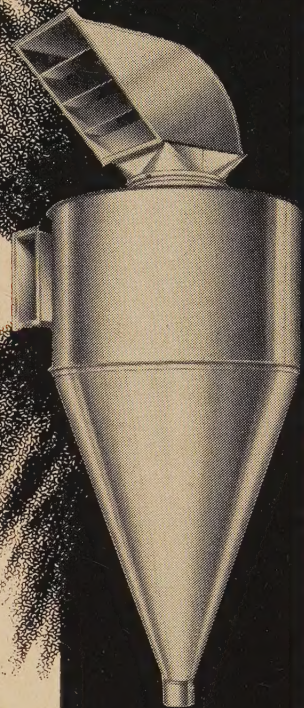
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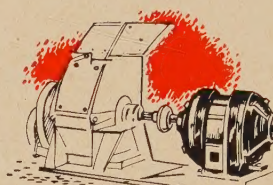
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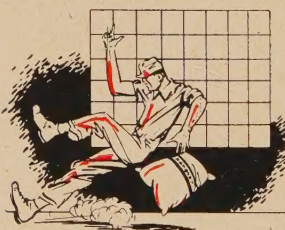
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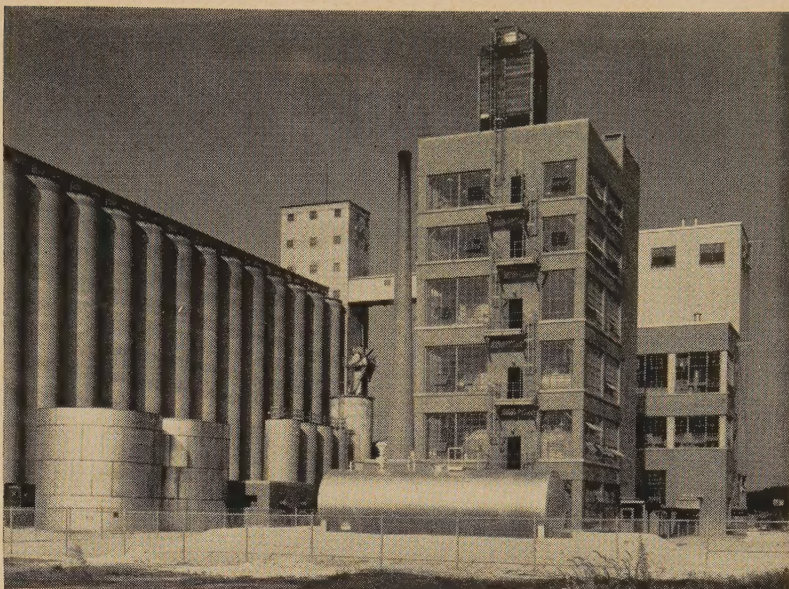


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*An Exact Duplicate  
of Its Illinois Twin*

## This New Iowa Soybean Plant Is Highly Rated



General view of new 6-story solvent extraction tower and (directly in back) the 4-story soybean preparation plant, at Ralston Purina Co., Iowa Falls, Iowa. Large horizontal tank stores a supply of hexane. At left are some of the grain and bean storage bins, of which there are 40, holding 1,300,000 bushels.

THE EXPANSION program of Ralston Purina Co. recently included two identical soybean oil plants of the solvent extraction type. One was at Iowa Falls, Iowa (which will be described in this article and the other (exactly similar) at Bloomington, Ill. Both were designed and built by the Chemical Plants Division of the Blaw-Knox Construction Co.

Each of these new plants has a soybean processing capacity of 200 tons per day of 24 hrs., and employ Link-Belt Bulk-Flo conveyors for delivering raw bean flakes to the extractor.

The Iowa Falls plant, which the writer visited on July 28, 1949, was placed in active service a day or two thereafter. The Bloomington, Ill. plant went into operation on Dec. 12 last.

The present article will confine it-

self to the new 200-ton-per-day solvent-extraction plant at Iowa Falls, which has been erected alongside their 40 huge storage bins holding 1,300,000 bus. of corn, oats and beans; seven-press oil mill; and meal blending, bagging plant.

H. N. Johnson, the local manager, told us that the Iowa Falls plant had been operated as a "feed plant" for the production of Purina Chows, that it was only 7 yrs. old, and that they had been building and adding to it constantly.

The two new plants represent Ralston Purina's first venture into the extraction of oil from soybeans by the solvent process, whereby more oil is extracted at lower cost per ton of beans.

The screw press type unit at Iowa Falls has a capacity of 150 tons of soybeans per day and will, we are told, be kept in operation as long as its production is required and found profitable.

The new solvent-extraction unit is designed to process soybeans containing 19 to 22% oil by weight and 9 to 14% moisture.

From 200 tons of beans, it has capacity to produce approximately 8,940 gals. of soybean oil and about 160 tons of meals per day of 24 hrs.

Blaw-Knox engineers state the plant is guaranteed to produce meal with a residual oil content of less than  $\frac{1}{2}$  of one per cent by weight, thus giving a yield of 10.25 lbs. of oil per bushel of beans.

This compares with a yield of 8.25 lbs. of oil per bushel of beans, and a residual oil content of  $4\frac{1}{2}\%$  in the meal, by the mechanical screw-press method of extraction employed in previously-existing oil mill.

The solvent used in the new plant

is hexane. Hexane recovery from the oil and meal is essentially complete.

Through the use of a refrigerated vent condenser, solvent losses are kept to less than 0.7% by weight of beans processed.

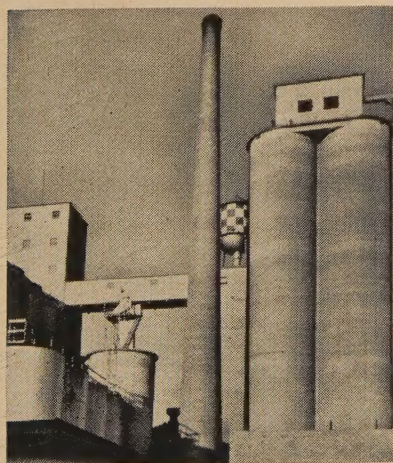
### Processing Procedure

The processing of the beans is divided into two separate stages: 1, Preparation of the beans for the extraction process and 2, the extraction operation itself. For maximum safety, the extraction process is carried out in a separate building.

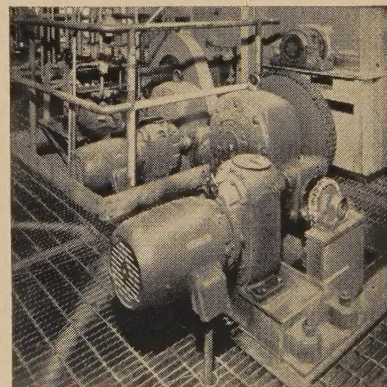
In the Preparation Building, the raw beans from a surge bin, filled by belt conveyor from the storage silos, are automatically weighed as they are fed to several cracking rolls, which crack the beans into quarters.

The cracked beans are run through a rotary conditioner which regulates the moisture content to around 11% and by means of steam pressure heats the beans to a plastic state.

The bean conditioner feeds the

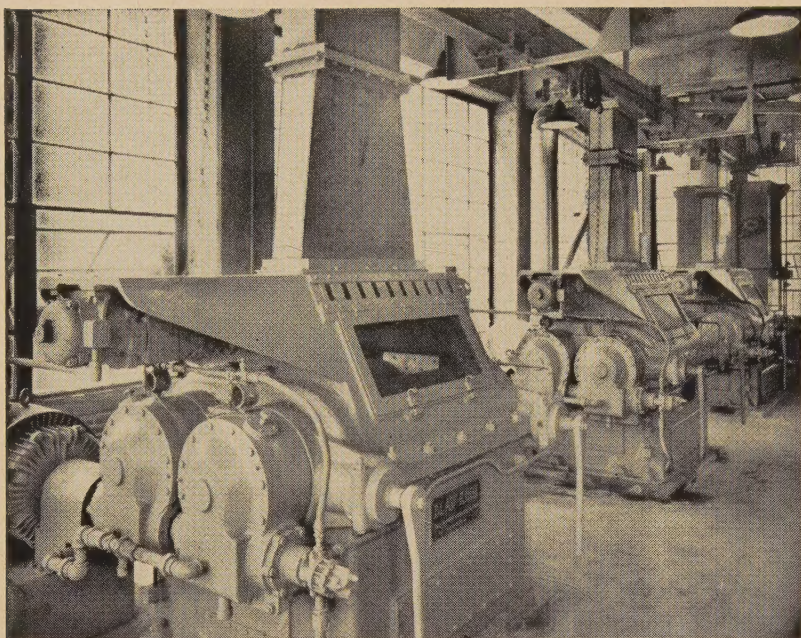


Looking toward boilerhouse, Link-Belt coal elevator is seen above coal storage tank. Water tank shows the company's checker-board trademark. Grain, bean, ingredient tanks are also shown.



Fifth floor of Extraction Building, showing Link-Belt motorized P.I.V. variable speed drives, worm gear and "RC" roller chain drives to solvent type extractor and to screw feed into desolventizer.





Three bean flaking rolls fed from overhead horizontal Bulk-Flo conveyor through chain-wheel-operated slide gates and vertical chutes. View is looking toward overflow chute and hopper (equipped with Bin-dicator) at head end of conveyor.

thermo-plastic beans over a short magnetic belt (to remove any stray metal) to a horizontal Bulk-Flo conveyor suspended from ceiling of the floor below.

Bulk-Flo delivers into a row of three flaking rolls through chain-wheel-operated rack and pinion slide gates in bottom of Bulk-Flo casing.

The flaking rolls flake the bean particles to a thickness of 8 to 10 thousandths of an inch. Flaking the beans makes it easier for the solvent to remove the bean oil.

The flaked beans are conveyed across plant yard to the extraction building by a horizontal Bulk-Flo

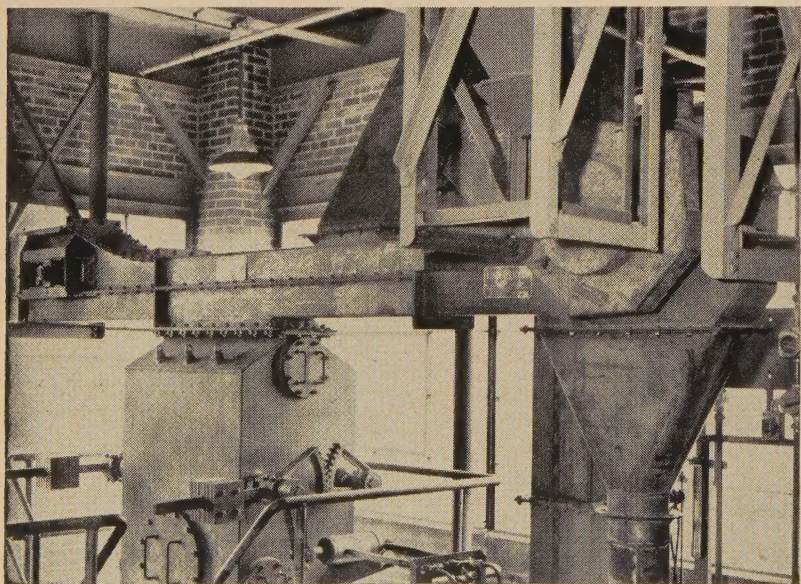
conveyor supported in the clear, above the ground.

This conveyor is well insulated to retain the heat and moisture content of the flakes.

An enclosed chute from head end of this horizontal Bulk-Flo discharges the flakes at first floor level to a loop-type Bulk-Flo elevator which raises them to sixth floor of the Extraction Building.

There, the vertical Bulk-Flo feeds the flakes to a horizontal Bulk-Flo which, in turn, carries them forward and discharges directly into top of extractor.

This horizontal Bulk-Flo also serves



Sixth floor of Extraction Building, showing top of Blaw-Knox solvent type extractor and the horizontal Bulk-Flo which delivers the raw bean flakes into extractor. Bottom run of this Bulk-Flo carries any overflow of flakes back to collecting hopper and chute at right of picture, for return in closed circuit to vertical Bulk-Flo at first floor level—the same Bulk-Flo elevator that is here seen in background, with its chute to horizontal conveyor.

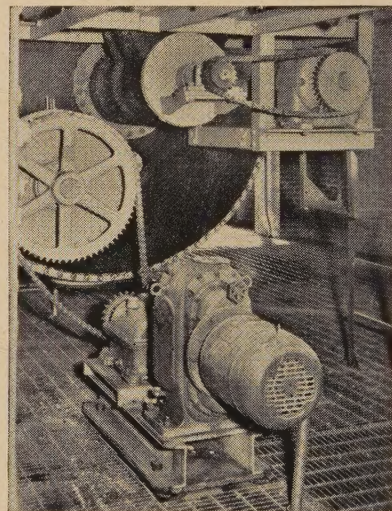
the purpose of carrying back, in its bottom run, any overflow of bean flakes to its foot end, where they fall into a collecting hopper and chute discharging into loop-type Bulk-Flo elevator at first floor level, for automatic return, in closed circuit, to extractor unit.

### Solvent-Extraction

The extractor used in this plant is of the vertical elevator type, employing a series of pivotally suspended perforated baskets attached to endless chains; and using both concurrent and multiple step counter-current extraction.

The flakes are fed directly to the baskets on the descending side of extractor.

With this system of extraction, there are two passages of solvent through the bean flakes and perforated bottom of baskets—(1) Sprays of clear hexane in counter-current direction



These Link-Belt drives to spent soybean flake toaster include a motorized P.I.V. variable speed drive, enclosed herringbone gear, L-B Gearmotor, and two "RC" roller chain drives.

and (2) sprays of "half-miscella" in concurrent direction.

"Half-miscella" is the hexane-rich product of extraction by the fresh hexane sprayed on the partially extracted flakes as they rise through the "up" side of the elevator system of the extractor.

The "half-miscella," sprayed on the fresh flakes as they enter the extractor, flows through on the "down" side to yield the full "miscella," from which the soybean oil is obtained by evaporation of the solvent.

Full miscella consists of about 25% soybean oil and 75% solvent, by volume.

The combined concurrent and counter-current flow system of extraction assures a minimum residual oil content in the flakes, because the low oil content flakes come into contact



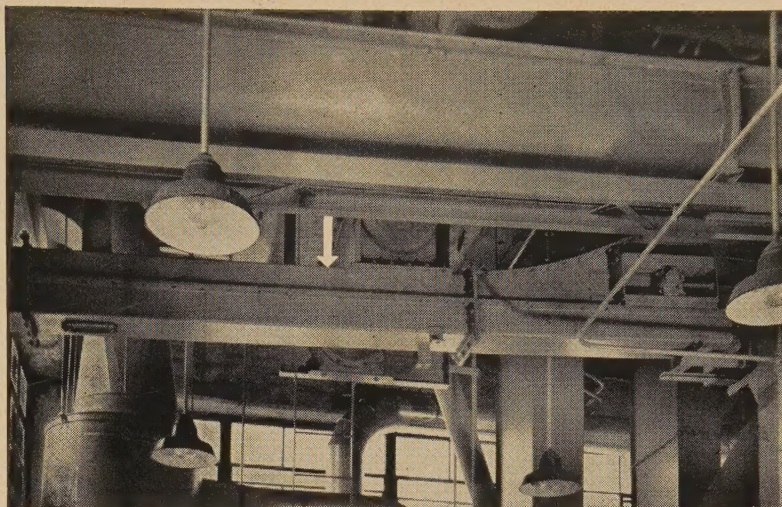
with the clear, fresh solvent, which removes all but traces of the oil.

As the baskets return to the top of the extractor, the spent flakes are automatically dumped and then conveyed to a Desolventizer, which removes most of the hexane by recirculating a superheated portion of the vapors through the flakes to drive off solvent. Most of the hexane in the flakes is recovered in this step.

The flakes then pass to a Deodorizer, in which the last trace of solvent is removed by treatment with live steam.

The next step in the process is a toasting operation, in which the meal is pressure-cooked at about 15 lbs. per sq. in. in a vessel called the "Toaster."

The toasting operation is very important in the processing of the spent flakes, in that it breaks down the complex protein molecules that



Arrow points to foot end of Bulk-Flo conveyor (fed by screw conveyor under flaking rolls on floor above) which takes the moisture-conditioned raw bean flakes across plant yard to the Extraction Building.

the hexane must be recovered from the soybean oil for re-use.

### Hexane Recovery

The full miscella is pumped from the bottom of the extractor through bag filters to remove any loose flakes which might clog the heat exchangers and evaporators.

The miscella is then run to a rising-film evaporator operating at atmospheric pressure, which removes a major portion of the hexane.

The "bottoms" pass through a flash tank to a falling-film evaporator which removes all but a trace of the hexane.

The rest is removed in a packed column by stripping with superheated steam.

The finished soybean oil is then pumped to several large storage tanks alongside railroad siding.

The plant's oil handling facilities

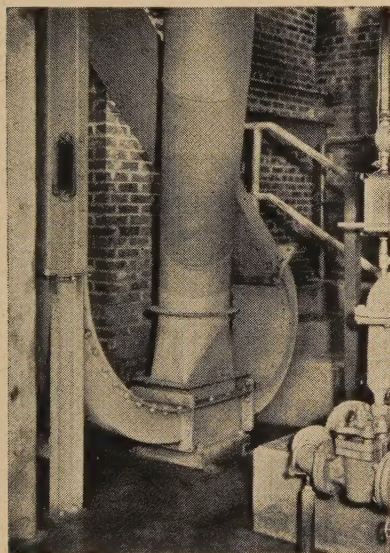
include a new loading station for bulk shipment of the oil in tank cars.

As hexane fumes are heavy, the new Extraction Building is provided with reverse ventilation, whereby the air is pushed up from bottom floor to top.

Flame arresters and a 3,500-gal. water cooling tower on roof, permitting the water to go down slowly through the six floors to cool down the equipment, are among the features provided against fire hazard.

A cyclone fence completely encloses the building and a large hexane storage tank in plant yard.—*Reprinted from "Link Belt News" by special permission of the Link Belt Co.*

No man is useless in this world who lightens the burdens of someone else.—*Charles Dickens.*



Foot of loop-type Bulk-Flo elevator on first floor of Extraction Building, showing large enclosed chute from head end of horizontal Bulk-Flo conveyor which brings the raw bean flakes across plant yard. Bulk-Flo elevator lifts the flakes to sixth floor for discharge into top of extractor.

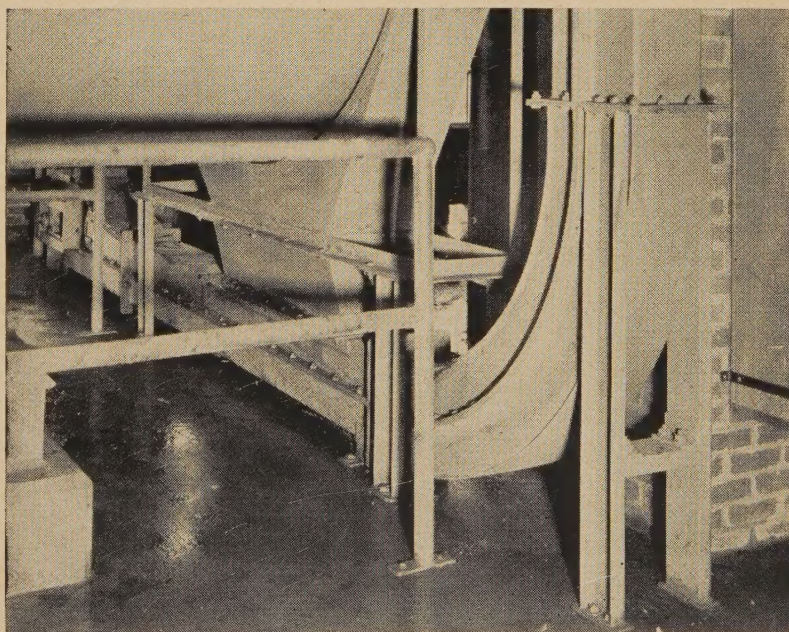
cannot be assimilated by some farm animals.

The Blaw-Knox toaster permits independent control of the variables of time, temperature and moisture, in order to assure the exact degree of cooking desired.

After toasting, the meal is cooled and then conveyed by L-type Bulk-Flo elevator and screw conveyor to the preparation building to be pulverized, sifted and delivered to the feed blending and bagging plant, where it is made into the various Purina Chows for poultry, chicks, turkeys, cows, calves, steers, hogs, etc.

A Bulk-Flo elevator lifts the finished meal into meal bin.

Returning to the extraction process;



L-type Bulk-Flo conveyor-elevator from spent soybean flake cooler to conveyor which returns the flakes across plant yard to meal preparation building.



# Grain Unloading Problems

THE AOM Research Committee announces that considerable study will be devoted this year to unloading of grain and incidental problems also the loading of bulk commodities. The following outline has been proposed:

## Spotting the cars.

Carpullers, capstans and tractors or switch engines are the common sources of power for spotting cars. All have their limitations. A satisfactory car spotting set-up should:

- (a) require low manpower,
- (b) be rapid,
- (c) be safe,
- (d) be dependable and
- (e) require small amount of effort to put it into or out of operating position.

## Removal of grain doors.

A satisfactory method for removing grain doors should have these features:

For wooden grain doors:

- (a) be power operated,
- (b) require minimum amount of effort to put it into or out of operating position,
- (c) must not damage grain doors,
- (d) must have tolerance respecting boxcar position.

For Signode grain doors:

- (a) improved means for removing steel straps.

## Removing grain from the car.

Power shovels. Present power shovels are undesirable because they require too much manual labor to operate, are too slow and incomplete at the cleanup stage, constitute a safety hazard and the maintenance cost is too high.

A desirable power shovel should have the following features—

- (a) operator to have continuous control of the shovel movement,
- (b) shovel should have positive safety stop,
- (c) eliminate counter weights,
- (d) require less physical effort to operate,
- (e) have greater efficiency at latter stages of unloading,
- (f) low power requirement.

Car dumpers. Present car dumpers are satisfactory for large scale operations. The initial cost is prohibitive excepting for very large capacities.

Pneumatic unloading. This method appears to involve excessive power and labor cost per bushel of grain handled. The initial investment is high. Pneumatic unloading has many desirable features such as, cleanliness, safe to operate, versatile for use with different commodities, flexible, eliminates need for exact car spotting, efficient at cleanup stage, requires small physical effort to operate and

fewer interruptions for maintenance.

Hopper bottom cars. These cars have one very desirable feature, namely, bulk material is discharged by gravity without the help of any unloading devices. The undesirable features, however, outweigh the desirable ones when considered from the flour miller's point of view. This type of car is not suitable for reloading with packaged flour mill products and therefore takes up valuable needed boxcar trackage.

The desirable car should have the following features—

- (a) self-cleaning when loaded with free-flowing commodities,
- (b) should be similar to the present boxcar with respect to capacity and suitability for hauling other commodities in bags.

The committee is aware that some attempts have been made to perfect a boxcar embodying these desirable features. Four example, Canadian railroads some years ago constructed a car which was a combination conventional boxcar with hoppers added. Hatch doors cover the hoppers when the car is to be used as a conventional boxcar.

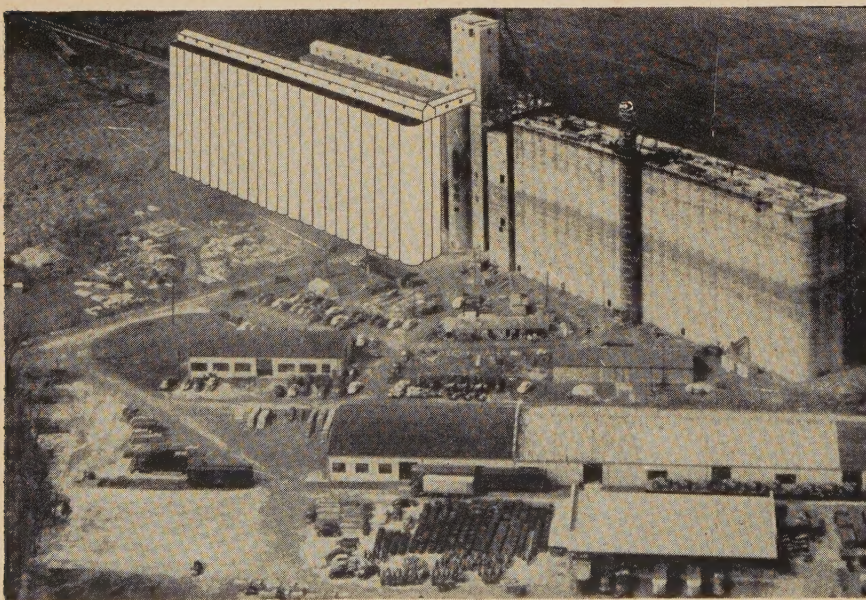
## Loading Bulk Commodities (Grain and Feed)

1. Mill feeds (bran and shorts). Existing types of loaders fall into the following groups:

- (a) Blow-in. Rather high-velocity air stream usually created by a blower fan is employed. The feed being unloaded is introduced into the air stream and thus blown into the car. Undesirable features are that the method is dusty, necessitating curtains across the boxcar doorway, requires fairly uniform feed and there is some moisture loss.
- (b) Throw-in. Mechanical devices of one kind or another impart high velocity to the material and thus throw it to all parts of the boxcar. The undesirable features of this method are dustiness, requires considerable attendance and will not fully load the car.
- (c) Convey-in. Conventional screw conveyors are mounted so as to be moved into or out of the car, actually convey the material into the boxcar. Comparatively high initial cost and excessive space required are the objectionable features.

The features to be desired in a bulk feed loading system are:

- (a) it should have a wide range of stream capacity,
- (b) should operate equally well on continuous or intermittent stream,



CURRENT AND PROSPECTIVE STORAGE

The Farm Bureau Columbus (Ohio) Terminal is the center of great activity at present. Construction of the 1,200,000 bus. addition (right). The lines drawn in on the picture show a second addition of 1,200,000 bus. capacity, on which work has just started. Back of this is the original 800,000 bu. elevator, erected in 1945. Both additional units are expected to be in operation by July 15 next. This terminal serves 125 Farm Bureau elevators in Ohio.



- (c) should be compact in size and design,
- (d) result in minimum moisture loss,
- (e) create minimum dust nuisance,
- (f) should operate with minimum attention,
- (g) be easily and quickly maneuvered into and out of operating position,
- (h) should be able to load to maximum loading capacity of the car,
- (i) a suction return should be provided to the eye of the fan to eliminate the dust somewhat.

## 2. Grain.

Most plants have enough elevator head-house height to satisfactorily load grain by gravity. It would be desirable to have a system which would reduce the dust nuisance.

## NEW MECHANICAL PRINCIPLE IN STACOMIZER

A new roller-type hydraulic machine known as a stacomizer has been installed at Armour Research Foundation of Illinois Institute of Technology for experimentation in the processing of agricultural and forest products.

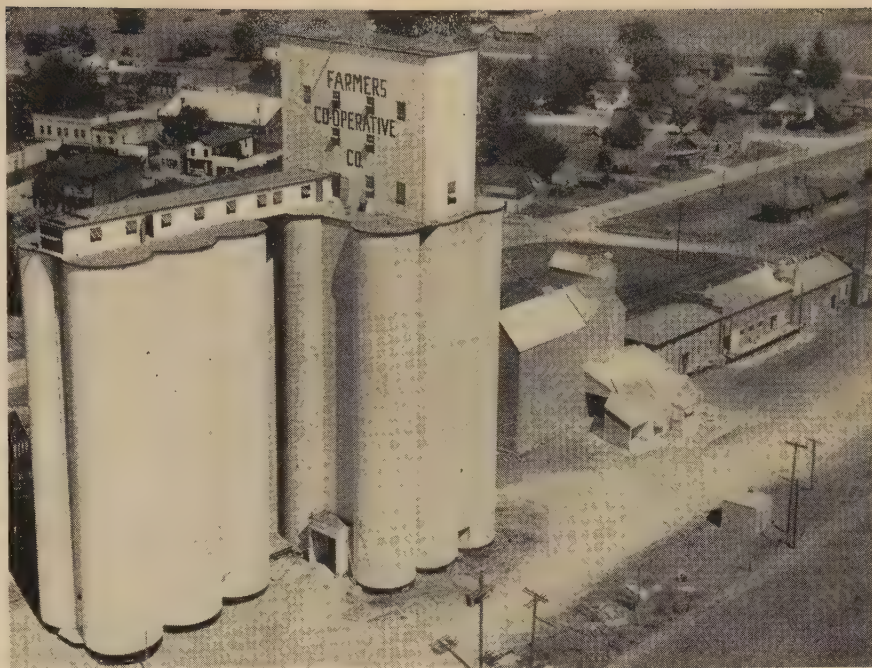
Scientists at the Foundation, working under the direction of Layton C. Kinney, supervisor of chemical engineering research, will use the machine in seeking to shorten the processing time, cut the cost, and increase the yield of a variety of processed foodstuffs and wood pulp products.

The stacomizer incorporates a new fundamental mechanical principle which permits the continuous application of high pressures without destructive heat. It operates in a manner that literally forces its roll assembly to accept materials, even soft materials, not accepted by other high pressure equipment with rolls in contact.

The machine is expected to displace many devices now used for crushing, grinding, macerating, blending, and compounding and to improve results obtained by present type rolling mills, ball mills, hydraulic presses, and decorticating machines.

Foundation scientists will use the machine to determine its applicability to various processing operations and its performance in each. These include:

1. Extraction of oils, juices, and other fluid components.
2. Recovery of fiber from trees, plants, shrubs, grasses, and other forest and agricultural products.
3. Milling of flours, starches, and similar granulated or powdered materials.
4. Extraction, preparation, or manufacture of therapeutic products.
5. Preparation of materials for leaching and solvent extraction and recovery of valuable components from cellulose materials.
6. Utilization of waste products



The transition now going on in grain handling and storage is well illustrated by this view showing new 200,000 bu. concrete annex (left) of the Farmers Co-operative Co., Dike, Iowa. The trend of many country elevators is away from the old style comparatively low height plants (as shown in middle) to the large modern houses with sub-terminal facilities. The total capacity of this plant is now 510,000 bus. Design and erection was in charge of Tillotson Construction Co., Omaha, Nebr.

where pressing or other extractive methods are used.

Unlike a standard roller mill in which the work is done by two opposing rolls, the stacomizer consists of three rotating members—a driven backup roll turning in a fixed position, a driven work roll permitted to move in a fixed horizontal plane,

and a floating ring which is not driven but revolves freely between the rolls which are under hydraulic pressure.

On the Foundation unit, the force exerted between the two rolls reaches a maximum of 150,000 lbs. The back up roll and work roll are 8 in. in diameter.

## PERSONAL SIGNIFICANCE

ONE EVENING Whiting Williams, the labor relations counselor, read a paper in which he made the statement that the quest to achieve personal significance does not abate when a man is asleep.

Williams has long asserted that what makes human beings tick is a desire for recognition. When this is denied them in their jobs, they seek it elsewhere, maybe in some sport or hobby.

For better labor relations, industry's most important task is to devise ways by which workers can be satisfied that what they are doing is worth doing and that the way they are doing it is appreciated.

This is not difficult in a small company, if the owner is a human fellow, but it is a gigantic problem in an organization employing thousands, especially since so many men now take orders from their union bosses rather than from their shop bosses.

So fierce is this urge to feel happily adjusted to the world in which we live that hoboes feel superior to tramps, and tramps feel superior to bums, according to Williams' studies of human behavior. Few men demand or even want the top jobs, but every man wants to feel, and have others acknowledge, that he is close to tops in the job he is doing and the way of life he has chosen to follow.

As for the sleeping part, Williams maintains that the subconscious mind is working all the time, even when we are deep in slumber. It's Freudian stuff, of course, but it makes sense to anyone who thinks about it.—Bagology.





# Just like a ...DENT

Concrete, like teeth, **MUST** be inspected and attended to regularly! Cavities **MUST** be painstakingly treated by only a technician's skill, **rebuilt** with an expert eye towards permanent strength, and, finally, **filled** with protective material; . . . bridge-work must be put in wherever and whenever necessary—**and the cheaper it will be.**

Nature is constantly **tearing down** and so both concrete and teeth must be restored as **quickly** as possible. Nature knows how—for once deterioration has started it increases rapidly and restoration costs jump and may even reach the point where either is beyond reclaiming.

Did you ever stop to think just why you go to a dentist to have your teeth fixed? . . . "Sure" you go to an expert and has the necessary tools, **equipment** and **experience** with which to do a **first-class job**. You stop to realize what would happen if you did **not** go to an expert to have your concrete repaired.

We have had over **forty years' experience** exclusively in the restoration and care of concrete and are busily engaged in this specialized work the year 'round. By having the proper tools and equipment

and **experience** we are enabled to give you the **best results** at the **lowest expense**. If you entrust your problem to us, you will get **satisfactory results** and the most for your money.

Protect your property investment as you would protect your teeth from further decay—**the best way!**

**Do it NOW—it's NOT TOO LATE!**

*No obligation for an estimate. Just call.*

Our work is NOT cheap,—but it IS lasting. The reason is the skilled man-hours involved and the **quantity and quality** of our materials is **greater and costlier and more satisfactory.** The **best is the cheapest** in the long run!

# B. J. MANY CO., INC

30 NORTH LA SALLE STREET

CHICAGO 2, ILL.



# IST!

pared, cleaned with  
with a truly lasting  
oner the better and

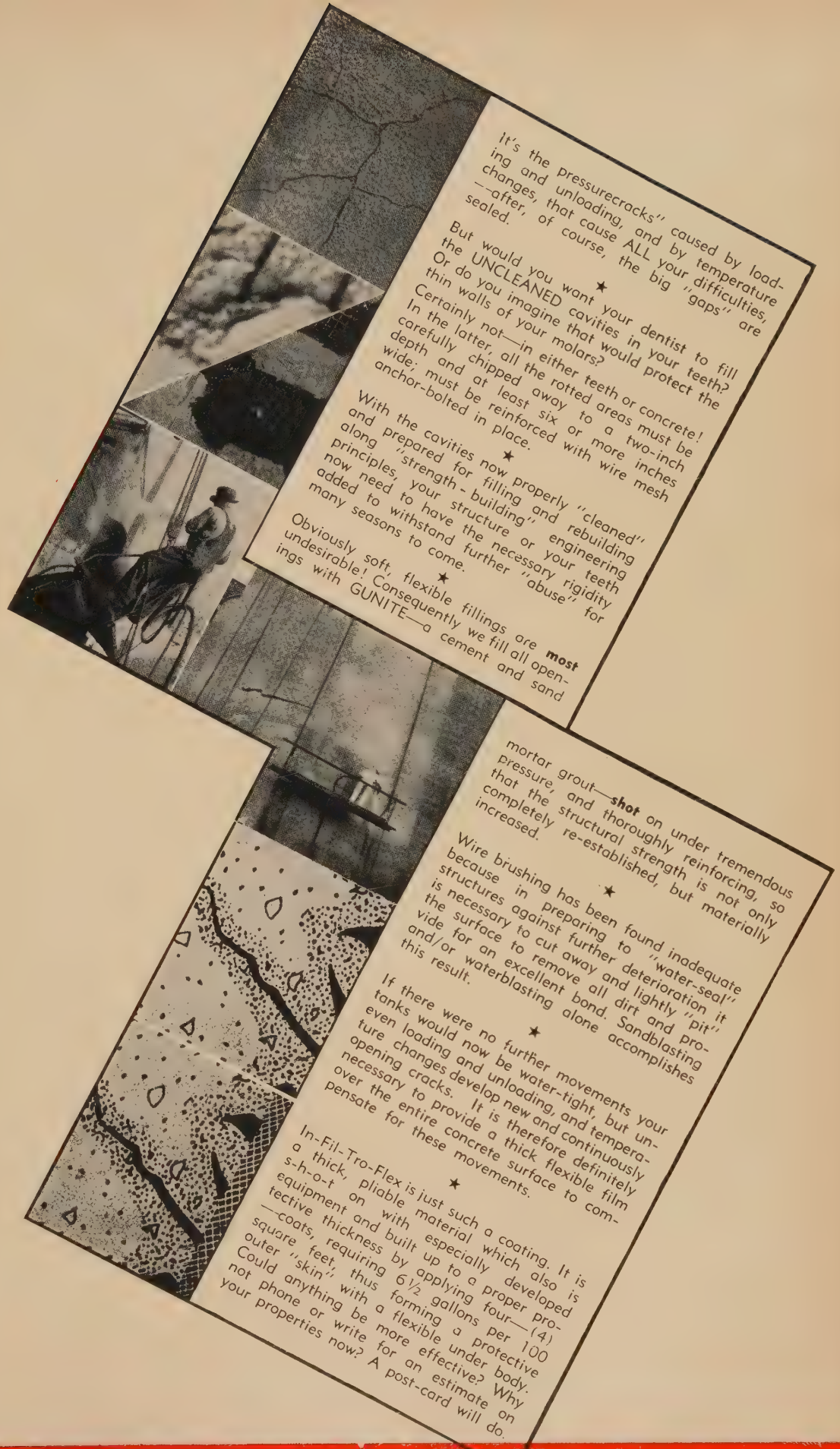
as **well** as science  
up—and eventually,

y, "because he's an  
. But did you ever

ur skilled mechanics  
ent and a wealth of  
b and at the least  
can be assured of

your Dentist protect

*Call in*



It's the pressurecracks" caused by loading and unloading, and by temperature changes, that cause ALL your difficulties, —after, of course, the big "gaps" are sealed.

★

But would you want your dentist to fill the UNCLEANED cavities in your teeth? Or do you imagine that would protect the thin walls of your molars?

Certainly not—in either teeth or concrete! In the latter, all the rotted areas must be carefully chipped away to a two-inch depth and at least six or more inches wide; must be reinforced with wire mesh anchor-bolts in place.

★

With the cavities now properly "cleaned" and prepared for filling and rebuilding along "strength-building" engineering principles, your structure or your teeth now need to have the necessary rigidity added to withstand further "abuse" for many seasons to come.

★

Obviously soft, flexible fillings are **most** undesirable! Consequently we fill all openings with GUNITE—a cement and sand mortar grout—**shot** on under tremendous pressure, and thoroughly reinforcing, so that the structural strength is not only completely re-established, but materially increased.

★

Wire brushing has been found inadequate because in preparing to "water-seal" structures against further deterioration it is necessary to cut away and lightly "pit" the surface to remove all dirt and provide for an excellent bond. Sandblasting and/or waterblasting alone accomplishes this result.

★

If there were no further movements your tanks would now be water-tight, but uneven loading and unloading, and temperature changes develop new and continuously opening cracks. It is therefore definitely necessary to provide a thick flexible film over the entire concrete surface to compensate for these movements.

★

In-Fil-Tro-Flex is just such a coating. It is a thick, pliable material which also is s-h-o-t on with especially developed equipment and built up to a proper protective thickness by applying four—(4)—coats, requiring 6½ gallons per 100 square feet, thus forming a protective outer "skin" with a flexible under body. Could anything be more effective? Why not phone or write for an estimate on your properties now? A post-card will do.

BRANCH OFFICES: 1100 Baltimore Life Building, Baltimore 1, Md. — 903A First National Bank Building, Mobile 3, Ala. — 504 Delta Building, New Orleans 12, La. — 503 North 20th Street, Birmingham 3, Ala.

AUTHORIZED AGENTS: Mr. H. W. Webb-Peploe, 409 Monmouth Road, West Long Branch, New Jersey — Pioneer Sand and Gravel

Company, Inc., 901 Fairview Avenue, North, Seattle 11, Washington — Northland Machinery Supply Co., Ltd., 203 Hardisty Street, Fort William, Ontario, Canada — Northland Machinery Supply Co., Ltd., Winnipeg, Canada — Toronto, Canada, Erven Stocks, 817 Monroe St., Fort Wayne 2, Indiana. — K. R. Shupp, 310 Piedmont Bldg., Charlotte 2, N. C. — George P. Coyle & Sons, 412 Park St., Jacksonville, Fla.



# THE BARLEY BIN

## BARLEY MEETING IN RED WING

Farmers, county agents, teachers of agriculture in high schools, grain dealers and representatives of the malting and brewing industries attended a barley improvement meeting at Red Wing, Minnesota on Mar. 23. These men came from three counties in Minnesota and three in Wisconsin, all six counties in the fine old malting barley area along the Mississippi River.

Purpose of the meeting was to announce the Minnesota and Wisconsin Malting Barley Contests for the 1950 crop season, to explain the Selected Varieties of Malting Barley Program in Minnesota and to discuss barley varieties and the production and marketing of high quality malting barley.

The 18 "missionaries of better barley" who attended the meeting at Red Wing are shown in the photo. The poster at the left exhorts farmers

*This Department is conducted by the SOGES Barley Committee: Dale Wilson, Northwestern Malt & Grain Co., Chicago, Chairman; Ed Josephson, Schreier Malting Co., Sheboygan, Wis.; Henry Anderson, Bunge Corporation, Minneapolis; John Belanger, Manitoba Pool Elevators, Fort William, Ont.; Lloyd E. Forsell, Albert Schwill & Co., Chicago.*

1. Grow one of the approved varieties of malting barley such as Kindred (L), or Moore.
2. Plant (1) certified seed barley, (2) seed only one year removed from certification or (3) other seed known to be true to the variety named and pure.
3. Plant this seed on clean ground, i.e. not on a field that was planted to barley of another variety in 1949.
4. Treat seed before planting with

and induces lodging (Kindred (L) has weak straw).

6. Allow the crop to get fully ripe before harvesting, and avoid cutting this barley too soon after rain or heavy dew, when the grain is wet.

7. Use care in combining and threshing the crop, to avoid excess skinned and broken kernels. Reduce cylinder speed and make other needed adjustments.

8. Store only dry barley on the farm and avoid storage of damp or "tough" barley and consequent heating and other forms of bin damage.

After-dinner speakers at the Red Wing meeting were Irven J. Ott, Executive Secretary, Wisconsin State Brewers Association, Milwaukee, John Farrell, Jr., Secretary, Minnesota Brewers Association, St. Paul, and Dr. John H. Parker, Director, Midwest Barley Improvement Association, Milwaukee.

The malting barley exhibit, brought to Red Wing by Dr. Parker, included maps showing the location of growers of certified seed of approved varieties of malting barley in Minnesota and Wisconsin, also maps showing the acreages of leading varieties of malting barley, in the Red Wing territory.

On the Minnesota side of the



Front row (left to right): Dr. John H. Parker, Director, Midwest Barley Improvement Assn., Milwaukee; R. M. Crosbie, J. C. Dill Co., Wabasha, Minn.; John Farrell, Jr., Secy. Minnesota Brewers Assn., St. Paul, Minn.; Walter Copp, Agr. Instructor, Lake City, Minn.; F. E. McCue, River Falls, Wis.; LeRoy Uptagrafft, Agr. Instructor, Lake City, Minn.; Harry A. Hass, River Falls, Wis.; John F. Ruemmele, Hudson, Wis.

Back Row: Irvin J. Ott, Exec. Secy., Wisconsin State Brewers Assn., Milwaukee; John Sleik, Jr., G. Heileman Brg. Co., La Crosse, Wis.; George Yakish, chemist, Froedtert Grain & Malting Co., Winona, Minn.; H. G. Seyforth, County Agent, Ellsworth, Wis.; V. C. Hendrickson, County Agent, Alma, Wis.; S. M. Nielsen and A. Dickie, Ellsworth, Wis.; A. Brovald, Alma, Wis.; L. Niedzwiecki and Vilas Ede, Mondavi, Wis.

to plant only cleaned and treated seed. The chart on the right summarizes, recommendations for barley production practices that will produce high yields of top quality malting barley, to command premiums when marketed. These recommendations include:

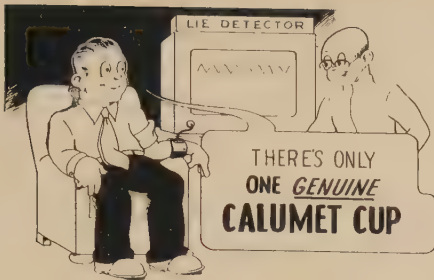
Ceresan or Panogen to control seed borne plant diseases. Plant as early as soil and seasonal conditions permit.

5. Use commercial fertilizer (especially phosphate). Avoid the use of excessive amounts of nitrogen fertilizer, as this tends to retard maturity of the crop (Moore is a late variety)

"father of waters", Kindred (L) barley is the dominant variety, grown in 1949 on 65% of the barley acreage. On the Wisconsin side of the river, in 1949, Wis. 38 was leading.

Moore, the new Wisconsin-bred variety of malting barley is likely to be the leading variety in 1950.



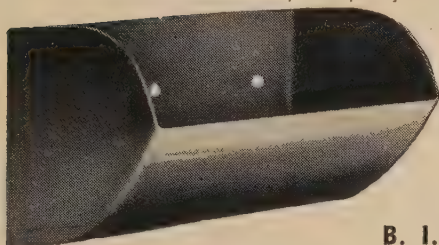


...and that's the plain unvarnished truth! Calumet's patented Logarithmic Curve design has never been successfully imitated. Its performance has never been duplicated.

Because this is **provably true**  
**MORE THAN 3,500,000 CALUMET CUPS HAVE BEEN INSTALLED IN ELEVATORS THROUGHOUT THE WORLD . . .**

*Not Including Canada*

Remember, there's **only one** genuine High Speed Calumet Super Capacity Elevator Cup . . . just one cup that provides Calumet's **peerless** performance.



Weller Pat.  
 No. 1944932

**B. I. WELLER CO.**  
 327 S. LaSalle St., Chicago, Ill.  
*Thirty-six Years of Service to the Grain Trade*

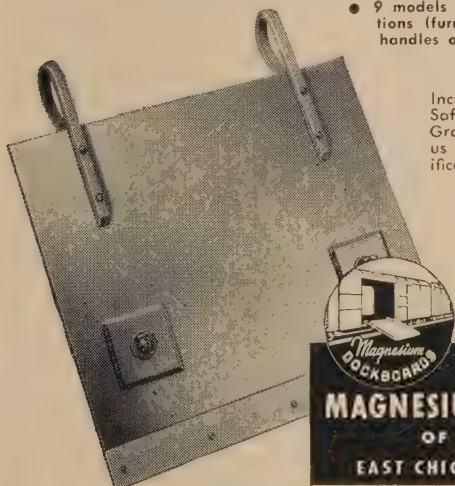
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 Your Jobber

Or write for literature and capacity data.

## NOW... MAGNESIUM LIGHTNESS IN GRAIN SHOVELS

Imagine a grain shovel 28" by 32" made of metal, yet weighing only 19½ lbs. That's what you get in **magnesium**—the new lightweight miracle metal. MAGCOA Grain Shovels will save you money over a period of time because of their greater resistance to wear and greater handling efficiency.

- Easy, non-fatiguing to handle
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- Reinforced at stress points for greater strength
- Balanced design for maneuverability
- Quickly reversible and replaceable striker plates assuring long service
- Non-sparking, eliminates explosion hazards
- 9 models to fit all conditions (furnished without handles or hooks)



Increase Efficiency & Safety with Magcoa Grain Shovels. Write us for complete specifications and prices

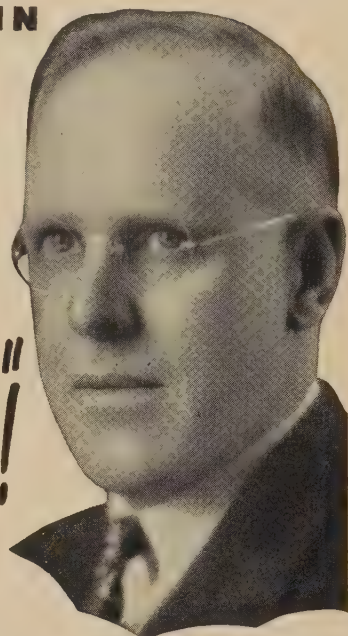
**MAGNESIUM COMPANY OF AMERICA**  
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- EASTERN DIVISION: 30 Rockefeller Plaza, New York 20, N. Y.
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*facts not fiction...*

## SIGNODE GRAIN DOORS

*"easier to unload!"*



SAYS

**AL HALBERG**

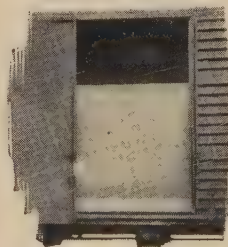
*Pillsbury Mills, Springfield, Illinois*

"We have unloaded 750 cars of grain which were protected by Signode Grain Doors . . . and we are very much pleased with them. Our men prefer Signode Grain Doors because they are safer and much easier to open."

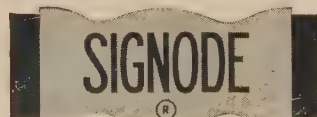
## right, Mr. Halberg

When you use car dumpers, Signode Grain Doors stay in the car; no danger of clogging pit; nothing to handle. With manual unloading, they are quickly severed at car doorpost—beginning at top and continuing progressively to bottom—permitting controlled flow of grain at rate that won't choke boot. When doorway is clear, expended grain door is folded back safely out of way. **NO HANDLING OF HEAVY, NAIL-STUDDED DOORS IN AND OUT OF CAR.**

The Signode Grain Door is a *one-piece* door. You need handle only *one* of these doors (weight 14 lbs.) for every *six* wood doors (combined weight 360 lbs.)! They give *positive protection* because pressure of load seals sides and bottom flap.



Made of strong Signode steel strapping, scientifically spaced between laminations of heavy duty, water-repellent kraft liner board, Signode Grain Doors A.A.R. approved are supplied in 6 ft. heights. For further information, write:



**SIGNODE STEEL STRAPPING CO.**

RAILROAD SALES DIVISION

2652 NORTH WESTERN AVENUE

CHICAGO 47, ILLINOIS



# ON THE SAFETY FRONT

Conducted By  
CLARENCE W. TURNING, SOGES Safety Director



From National Safety News  
Published by  
The National Safety Council

## STERILIZING RESPIRATORS

*The odor of sterilized respirators is objectionable. What can be done about this?*

Answer: The inside of the freshly cleaned respirator face piece can be sprayed with ordinary mouth wash. For variation, the local druggist can add a few drops of attar of roses or other suitable scent.—*Engineering for Safety.*

## JOB SAFETY ANALYSIS

Job safety analysis involves the accurate analysis and detailed description of each job in terms of duties, tools, methods, and working conditions, supplemented by a brief description of such personal requirements as age, sex, health, education and specialized skills, if any.

Some firms have developed job safety analysis on a major scale. They have handbooks for every type of work. The hazards of each job are discussed before work is started.

Is this is a project we should consider? If there are numerous answers in the affirmative, your Safety Committee will start the project, and if everyone helps we can perhaps do a commendable job.

## MORE ACCIDENT DECISIONS

Thirteen unusual industrial accidents are the subject of decisions just issued by the Committee of Judges of the American Standards Association's Project Z16. The decisions are interpretations of the American Standard Method of Compiling Industrial Injury Rates which provides the generally accepted rules for keeping track of the national industrial safety record.

The standard was developed by cooperative action of 30 national organizations, members of an ASA sectional committee now working under the leadership of the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

Statistics compiled on the basis of the standard are used by the National Safety Council in checking on the nation's progress in safety, and to compare the accident experience of industry with industry.

Individual companies use the standard for monthly compilations of their accident toll, and as a guide to unforeseen new hazards. Promptly reflected in the monthly record, these hazards can be eliminated without delay. In larger companies where

the accident experience affects compensation insurance rates, such control may represent a substantial money saving.

Because differences of opinion frequently arise as to how an injury involving unusual circumstances should be counted in the records, a committee of judges interprets the standard in doubtful cases. The 13 new cases bring to a total of 54 the number of decisions now released to the public. All the published decisions are available from the American Standards Association, 70 East 45 Street, New York 17, N. Y. Safety engineers are invited to obtain rulings on doubtful cases by sending the facts to the American Standards Association.

## SAFETY FILM

A new safety training film which should convince the most skeptical workman that it's smart to wear safety glasses has just been announced by the National Safety Council.

Titled "Easy on the Eyes," the film opens on an emotional appeal for workers to realize what their eyes mean to them, then shows how easily eyesight may be lost and that such loss is personal. The film shows what glasses are best for specific jobs, presents case histories of injured workers and the dramatic testimony of blind persons.

Three rules set the theme of the film — wear the right safety glasses, make sure they fit, and keep them clean.

"Easy on the Eyes" is available from the National Safety Council in the usual 35 mm sound slidefilm, but it also is offered in a new form for 16 mm sound-motion projectors. The new technique which combines motion pictures, still photographs and unusual optical effects, makes possible a film which approaches the motion picture in effectiveness at about one-third the cost.

Prices for outright purchase, preview or rental may be obtained on request to the National Safety Council, 20 North Wacker Drive, Chicago, Ill.

## 1950 DIRECTORY OF OCCUPATIONAL SAFETY POSTERS

There has long been a demand for a comprehensive cataloging of safety posters in a single volume. Many National Safety Council members plan their poster use for the year at the time their complete safety programs are mapped. As this method of attacking certain unsafe attitudes and practices has definite advantages, the obvious answer was to produce an annual directory of safety posters.

The 1949 Directory of Occupational Safety Posters was warmly received. Because all posters were kept in stock throughout the year, the number of poster orders not com-



pleted in original shipments was cut 2/3; delay for reprinting of the remaining 1/3 was reduced to not more than 8 days.

As with last year's Directory, all 744 posters in the 1950 Directory will be carried in stock throughout the year by National Safety Council, Chicago.

The cost of producing this directory is considerable. Therefore, complimentary distribution is being limited to holders of industrial and transportation administrative units. Additional copies may be ordered at nominal prices.

## HANDLING DOCK PLATES

A frequent source of injury is the carrying, placing, and removing of dock plates. Where manual handling of the plates is the rule, it is a frequent practice to "walk" or tumble the plates to the desired location, to position one edge, and then to let the plate drop into place. The plates frequently get out of control and fall, causing leg and foot injuries.

The plate has a tendency to bounce when it is dropped into place, and sometimes comes down on a worker's foot. The practice of dropping plates should be prohibited. They should be lowered or slid into place.

Men sometimes incur strains and other injuries when lifting and carrying plates. To prevent such injuries and to make it easier for workers to follow the regulation that plates be lowered, not dropped, enough men should be assigned to carry and place the plate, and to remove it after use.

One or more men using hooks engaged in holes in the edges of a plate can slide it into position without lowering or dropping it.

When plates are not in use, they should be stored in a safe place provided for the purpose, where they will be out of the way and cannot fall over. If plates must be stored on edge, a rack or other arrangement should be provided to prevent their falling. One method is to fasten to the wall a piece of chain with a hook or snap in the end, which can be hooked through a bolt hole near the top of the plate. In some cases, heavy plates may be stacked by power trucks.

Positive protection should be provided to prevent cars from being moved by switch engines or car pullers while dock plates are in position and men are working across them. To warn switch crews not to move the cars, a blue warning banner ("blue flag" in railroad parlance) may be placed between the rails ahead of the cars spotted along the platform, or on the end car.

Where there are several tracks, where curves obscure the view, or where there is any chance that switch

crews may not see the blue flag, it may be advisable to lock the switch.

At night, a blue light should be used in place of the blue banner.

## WHAT WE SHOULD INSPECT

*By Robert Clair*

Many ready-made check lists consisting of items which should be observed by an inspector and covered in his report are available. These are helpful only as preliminary guides. Let us think twice before we adopt any of them as they are.

As being much more effective than a ready-made check list, I recommend a custom-built inspection guide for every plant and business establish-

ment. Here's how to put it together:

First, set up three basic headings for the three major divisions of hazards as follows:

- (a) Structures, machinery, equipment, material, and other physical facilities.
- (b) Methods.
- (c) Plans for new construction, installation of machinery and equipment, specifications for seasonal or occasional jobs, and purchase orders for material and equipment.

Next, area by area, operation by operation, make as complete and detailed a list as possible, including every item that should be covered. Use plenty of collaboration. This is



**GIANT CAPACITY**

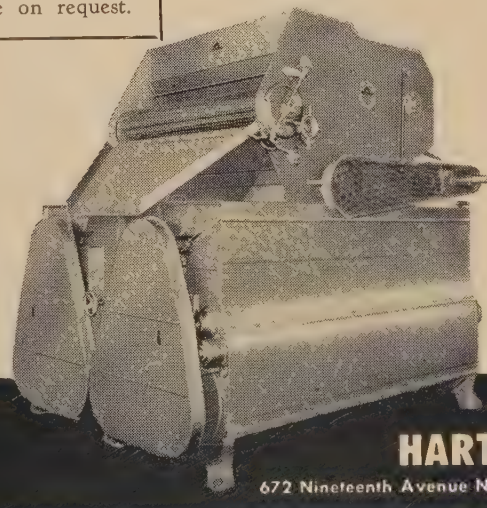
small operating cost

**CLEANS 1200 BUSHEL PER HOUR ON SPRING WHEAT**

### SIZES FOR ALL CAPACITIES

Carter Disc-Cylinder Separators are made in different sizes to meet varying capacity requirements. For small to medium capacity, ask about the 2131; for heavier-than-average runs, ask about the 2532. Free 16 page booklet describing complete line is available on request.

Where heavy runs of grain must be handled at low cost, the 2564 Carter Disc-Cylinder Separator offers maximum bushel capacity per cubic foot of machine. In a space less than 9 feet square on the floor, it cleans grain thoroughly and at a capacity unmatched by any unit anywhere near the same size. Provides in a single operation five major separations, plus scalping and aspiration. Power requirements: only 10 H. P. Comparisons in costs reported by large users show operation of Hart-Carter equipment runs lowest.



**2564**  
**CARTER**  
**DISC - CYLINDER**  
**SEPARATOR**

**HART-CARTER CO.**  
672 Nineteenth Avenue N. E., Minneapolis 18, Minn.



a big job and you will come out with a long list.

The next step is to combine those items which are repeated. Then you will have a partial check list applicable to all parts and operations in your establishment.

Next, select and assemble other items which are important in certain locations or at certain times.

Then, incorporate items to cover official accident prevention, health and fire protection standards as specified by all federal, state and municipal codes and regulations that apply. Next include clues to specific hazards as indicated by your most recent accident analysis.

This custom-built inspection guide should be arranged so that it may be assigned in units, depending on the qualifications of the various inspectors, on the type of inspection each inspector must make, and on the time element involved.

I approve of a so-called "check list" when this phrase is used to describe "a list of reminders." However, I do not believe in a "check list form" on which an inspector records his findings as he goes along by entering a series of pencil check marks in "yes" or "no" columns.

The best inspection reports I have seen have been narrative.

The complete inspection problem of any establishment may be represented by a circle—parts or segments of which should be handled by persons equipped with special qualifications. It is only by a combination or compilation of the work of each that we are able to produce complete inspection coverage or a truly general inspection.—*Extract from an address by Mr. Clair, who is connected with the Loss Prevention Dept., Liberty Mutual Insurance Co.*

# SAFETY and ACCIDENTS

R. H. MILLER

Recorder

*Continental Grain Co., Minneapolis*

## THE PANEL

*Walter H. Teppen, Occident Terminal Division, Duluth, Minn., Chairman; Charles J. Winters, Public Grain Elevator, New Orleans, Vice-Chairman; G. P. Lane, Arcady Farms Milling Co., Chicago; E. A. Christie, Quaker Oats Co., Cedar Rapids, Iowa; Oscar Olsen, Duluth, Minn.; Claude Darbe, Simonds-Shields-Theis Co., Kansas City, Mo.; Wallace Clark, Anheuser Busch, Springfield, Mo.; Frank Carlson, Underwriters Grain Assn., Chicago; Lewis Inks, The Quaker Oats Co., Akron, Ohio.*

THIS meeting was opened by Chairman Walter Teppen who related that we, as a group, have some good safety records, but, the amount of records are too few. Consensus indicates the following are the prevalent causes of accidents:

1. Working on dangerous jobs with no goggles or similar protective devices;
2. Careless handling of sharp or dangerous materials;
3. Failure to take care of accidents regarded as trivial;
4. Errors in judgment.

It was emphasized that Bulletin Boards be used; that accidents be thoroughly reviewed, and action taken against their repetition; that more men enter the Safety Contest and actively participate. Panel Discussion and contributions from the floor brought to light the following thoughts:

Many plants have had to work with an inferior type of worker until recently. With such a worker more complete safety tutelage is needed, but fed to them gradually in order for the teaching to be digested;

Weekly Safety Meetings were urged under chairmanship of top company men. It was emphasized that safety of man is the Superintendent's responsibility and that it is up to the old worker to train the new. Unless they, themselves, are sold, they cannot effectively sell others on Safety;

It was agreed that such items as fluorescent lighting be thoroughly guarded to prevent malignant and serious injury; that efficient fire brigades be organized.

An interesting idea is being developed in New Orleans: Pictures are being taken of accidents. These accidents are enacted for the camera and are to be shown later and discussed. It was thought the other plants might do this and the films exchanged.

In regard to labor negotiations: It was emphasized that the Superintendent should work behind the scenes and try to have his ideas incorporated in the negotiations. With regard to negotiating, it was suggested that company unions are most desirable and A. F. of L. next, in that they are not so socialistic in trend.

Good housekeeping was discussed from a practical view. It was brought out that Dust Collection and Dust Control are two different things. Dust Control was defined as the confining of the dangerous forms of dust — whereas Dust Collection was the actual removal of same.

It was pointed out that Housekeeping habits are obvious—that the condition of a man's office many times reflects the housekeeping in his plant.

To be content, if you do not have enough, is difficult; if you have too much, it's impossible.

HELP YOUR CUSTOMERS **KILL BUGS** IN FARM-STORED GRAIN

**SELL Douglas**

**TETRAKIL**

and

**SPECIAL MILL SPRAY**

(farm storage companion to Tetrafume)

Every year grain pests destroy 300 million bushels, which represents 5% of all stored grain! Farm papers are running big articles on the danger of epidemics this year. You've asked us for a way to help your customers protect their farm-stored grain. *This is it!*

### **SURE Protection with Douglas**

Douglas farm products kill all forms of insects—eggs, larvae and adults! Safe! Can't burn or explode . . . won't leave odors, tastes or stains. Easy to apply under ordinary farm conditions. You know Douglas—it's been the choice of the grain handling industry for over 37 years!

### **YOU PROFIT Two Ways**

**First** Douglas gives you a big dealer discount. **Second**, you save losses in your own elevators when you help protect the grain before it reaches you. Your customers will read about the Douglas method in powerful farm paper ads. These ads tell them that you carry Douglas . . . and to see you for expert advice. Be ready for this big farm market.

### **SELL TETRAKIL and SMS.**

Also profitable market for Douglas Chlordane and 2,4-D, Rat-Kil and other Douglas products. Free point of sale pieces and other selling helps.

Write today for complete information to:

**"PIONEERS OF SAFE INSECTICIDES"**  
**Douglas Chemical and Supply Company**  
1324-107 West 12th St. INCORPORATED 1916 Kansas City, Missouri  
BRANCH WAREHOUSES: CINCINNATI, OHIO • SPOKANE, WASHINGTON  
MINNEAPOLIS, MINNESOTA • PORTLAND, OREGON



# WHEAT AND RYE

LESLIE IRWIN, Recorder

## THE PANEL

Cornelius (Jersey) Halsted, General Mills, Inc., Buffalo, N. Y., Chairman; Elmer Hapke, Pillsbury Mills, Inc., Minneapolis, Vice-Chairman; Percy C. Poulton, N. W. Paterson & Co., Ltd., Fort William, Ont.; John Mack, Standard Milling Co., Buffalo, N. Y.; W. F. Weatherly, Galveston Wharves, Galveston, Texas; Frank Deebach, General Mills, Inc., Chicago, Ill.; John Carlson, Globe Elevator, Duluth, Minn.; Ernest Ohman, Osborn-McMillan Co., Minneapolis; O. B. Duncan, Salina Terminal Elev. Co., Independence, Mo.

JERSEY" Halsted opened the meeting, and Walter Teppen started the discussion by saying he felt rye should be handled just about the same as wheat. This includes turning to maintain atmospheric temperature, and disturb any infestation.

Lewis Inks said rye was as subject to infestation as wheat. It was next pointed out that the turning of rye might hurt it for grade. The Chairman felt the matter of grading rye should be, in every respect, similar to the grading of wheat.

The question then came up as to why rye was graded at all, and it was brought out that rye was graded to determine its value—both to the shipper and the buyer alike. It was also divulged that this was important as rye is used extensively for distilling purposes and that its market value often had to be established at such time as it was sold by the farmer.

### Wheat Protein

The discussion on wheat centered mostly on the matter of treating sick wheat and establishing proper protein content when being handled through the elevators. The chief objection seemed to be that protein wheat did not always test as represented.

This brought out that there was considerable variation on protein, tests made on the same sample, through different labs., with the Federal test being accepted as final. On this basis it was contended that there should be a uniform or universal tolerance on all tests should be adopted to be fair to all concerned, and that tests on averages—rather than individual samples—should apply.

### Sick Wheat

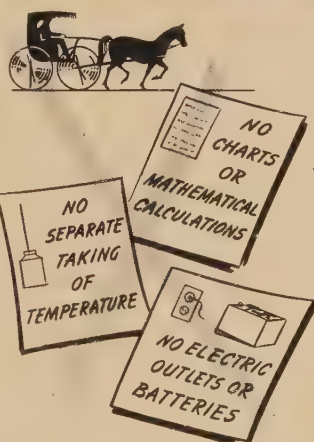
The symposium on Sick Wheat started in the session with some of the panel absent, but was completed down at the Public Grain Elevator with everyone there.

Probably the most significant statement was that infested wheat caused a yearly loss of 2 billion dollars. Some operators felt that sick wheat

varied in proportion to the amount of soft wheat being handled, and that this was aggravated by the practice of combining, which did not provide any period for curing.

It was brought out that sick wheat showed up in a poorer quality of flour and that all wheat should be turned in 15 - 20 or 30 day periods and until such time as the operator was certain it had taken on the atmospheric temperature and was under control.

It was pointed out that both infestation and heating could be arrested by cleaning the wheat free of all infestation to start with. But the cleaning loss involved would be charged back to the Elevator and



## Sheldrick **UNIVERSAL** MOISTURE TESTER

*The Greatest Advancement in Twenty Years*

The secret is control.

- CONTROL** of calibrations by built-in correlator dial gives direct moisture percentage readings . . . no charts required.
- CONTROL** of temperature readings permits the quick testing of mixed moisture, hot or kiln dried samples.
- CONTROL** of sample volume gives test after test consistency with greater accuracy.
- CONTROL** of electrical supply eliminates inaccuracies due to variations in line voltage.

Can be used for testing grain, feed, seed and other products. Makes complete test in less than one minute. Rugged, reliable, no maintenance. Precision-built by Sheldrick.

Do **your** moisture testing the **modern** way. Write today for literature and liberal **FREE** trial offer.

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EQUIPMENT COMPANY

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left the question of whether it was more advantageous to take a small cleaning loss, or, run the risk of having a whole bin of grain condemned.

At this point it was made plain that the inspection for infestation is getting more rigid all the time, and the possibility of increasing the losses to the elevator more severe.

The meeting closed with the comment that grain infestation originates on the farm, and that the grain might be treated there to effectively control or arrest infestation at the outset.

This prompted the reply that the farmer would not, nor could not, be expected to make any effort to control infestation as long as he could sell his infested grain at regular market prices. Therefore, the answer to dealing with infested grain—as it applied to the farmer—was to discount the price to where it would make it profitable for him to spend something by way of preventing infestation while the grain was still in his hands.

## PACKAGING EXPOSITION WILL BE BIGGEST

The American Management Association announced recently the schedule of events it will sponsor at its 19th National Packaging Exposition at the Navy Pier in Chicago, April 24-27. At the same time it reported that more exhibit space for the 1950 packaging show had been contracted for to date than the total of all space at the 1949 show.

The Exposition is the annual market place for machines, equipment, materials, supplies and services for packaging, packing and shipping in all industries. In 1949, when the Exposition was held in Atlantic City, 207 exhibits utilized 115,000 sq. ft. of display space. By January 1st of this year more than 128,000 square feet of space had been allocated to exhibitors, AMA said.

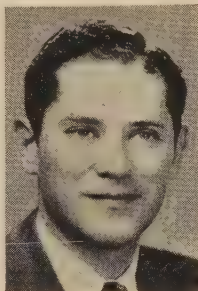
The AMA's annual Conference on Packaging, Packing and Shipping will be held concurrently with the Exposition. Subjects for the six sessions will be concerned with packaging management and techniques. Program details will be announced early in March.

The Conference is open to both members and non-members of AMA and the Exposition is open to representatives of all kinds of businesses.

# Service and Equipment

## DOUGLAS REPRESENTATIVE

A. C. Porter has been appointed to represent the Douglas Chemical & Supply Co. in the states of Texas and New Mexico. He will direct sales of all Douglas products including Tetrafume, grain fumigant used for over 37 years by the milling trade, and Tetrakil and Special Mill Spray which have been introduced recently for farm use.



A. C. Porter

Mr. Porter has been with the United States Department of Agriculture, CCC since August 1940, excluding three-and-a-half years in the service during the war. Since the war he has been directly concerned with the storage and exportation of all grain from the Texas Gulf Ports. His knowledge of grain storage problems should be very valuable in his work for Douglas.

Mr. Porter is a native of Lufkin, Tex. He attended the University of Texas at Austin and majored in mechanical engineering.

## NEW PROPORTIONING BULLETIN

A new, three color, six-page bulletin (No. 3849) has just been made available by the Richardson Scale Company of Clifton, N. J. It describes the company's precise proportioning and blending system, heart of which is the Conveyometer, a self-testing Feeder-Weigher designed for "stream" delivery of small, crushed, granular or non-flushing, ground materials.

It is ideal for proportioning any number of materials such as grains, feeds, meals, etc., in a continuous process of mixing and blending. It can be used also for delivering a prescribed tonnage of material by weight from supply to process and for recording the tonnage of material passed over it with suitable controls.

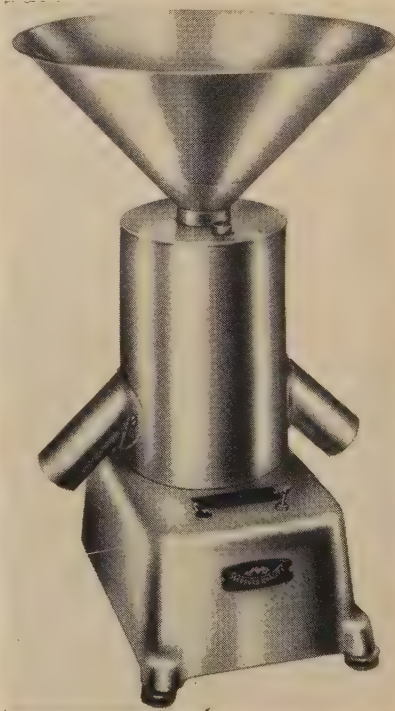
Each load can be weighed in any number of cycles, up to 10 per

minute, thus providing a practically continuous stream of material. An example of the ten cycle per minute run is schematically illustrated in Bulletin No. 3849, with a battery of ten Conveyometers, each feeding a different material to complete a prescribed blend. Visual indicators signal over-weights, under-weights and proof of automatic corrections.

## SAMPLE DIVIDER

A new type of divider that handles both grains and seeds, including brome and sudan grasses, and feeds as well, will be distributed by Seed-buro Equipment Co., Chicago, announces R. D. Harfst, vice president.

Division and mixing on the new unit, the Gamet Precision Divider, are accomplished by the centrifugal



Precision Sample Divider

action of a motor-driven revolving neoprene disc positioned under the hopper. Thorough testing has demonstrated accurate division and reduction to work size samples exactly

*"The Mark of a Good Job Well Done"*

**MORE THAN 10,000 CONTRACTS FOR SPECIALIZED ERECTION COMPLETED IN 22 YEARS**

**THE INDUSTRIAL ERECTORS, INC.**

ENGINEERS AND ERECTORS OF MATERIALS HANDLING EQUIPMENT,  
STRUCTURAL SUPPORTS, & PRODUCTION MACHINERY  
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representative of the original sample. Because it handles both grains and seeds equally well, the new divider is a perfect substitute for both the No. 34 and the No. 101 Boerner Dividers. Capacity built, the divider is only 21 inches high and 13 inches square at the base, with a hopper capacity of more than 2,000 grams.

One time-saving feature of the precision divider is easy cleaning. It is a job that can be performed in a few moments, since the unit can be quickly disassembled and re-assembled. All wearing parts are made of heavy brass and copper and can be easily replaced. The entire unit is chrome plated, making the Divider an attractive addition to any elevator office or grain testing laboratory.

### PERMANENT MAGNETIC SEPARATORS

A four-page, three-color bulletin on the subject of Permanent Magnetic Separators has just been published by The Bauer Bros. Co., 1790 Sheridan Ave., Springfield, Ohio. It describes Triple-Air-Gap and Single-Air-Gap Separators for chutes; Magnetic Grates for hopper bottoms and floor openings; Portable Separators for conveyor belts and picking tables. Unique features explained and complete data given. Copy is available to readers upon request.

### NEW INNIS SPEIDEN "VEEP"

Innis, Speiden & Co., New York City have made Donald S. Cushman, Vice President in charge of sales, according to an announcement by W. H. Sheffield, Jr., President.

Mr. Cushman, who has been with Innis, Speiden since 1928, was formerly Cleveland Manager of Sales for the Company. In 1942, he was transferred to New York as Assistant Sales Manager, in which capacity he served until last August when he was appointed Assistant to the President.

A member of the Chemists' Club of New York and The Salesmen's Association of the American Chemical Industry, Inc., Mr. Cushman lives at 536 Ridgewood Road, Maplewood, N. J.

He is a former resident of St. Petersburg, Fla., and is a graduate of St. Petersburg High School. Mr. Cushman is the son of the late Dr. and Mrs. Charles R. Cushman of that city.

### TWO NEW FAIRBANKS MORSE VICE-PRESIDENTS

At a recent meeting of the Board of Directors of Fairbanks, Morse & Co., two new Vice Presidents were elected. These are O. O. Lewis, Vice President in charge of Sales, and F. J. Heaslip, Vice President in charge of Purchases and Traffic.

Both these men have been associated with Fairbanks, Morse & Co.

for many years. Mr. Lewis joined the organization in 1908 as a clerk.

Mr. Heaslip joined the company in 1927 as a buyer in the Purchasing Department.

### BALATA BELTING BULLETIN

An attractive 4-page folder describing the qualities of "Suprene" belting is now being distributed by the Victor Balata & Textile Belting Co., 55 Park Place, New York 7, N. Y. According to this bulletin, Victor "Suprene" Belting is the manufacturer's answer to industry's demand for a single textile belt that will meet all elevating and conveying requirements in handling practically all types of materials, and for power transmission work.

Made of special woven cotton duck and impregnated with an exclusive Neoprene compound, it is claimed that this belting will provide long, trouble-free service under the severest operating conditions. A combination price list and specification chart is included on the rear cover which indicates the variety and thicknesses available, the ultimate breaking strength and approximate weight per 100 square feet. For additional information, request Bulletin and Price List No. 20.

### CONCENTRATED FEED MILL

Grain and feed circles are quite interested in a compact, complete new feed mill just announced by A. E. Poulsen & Co., Los Angeles manufacturers. Called the Uni-Food Mill, the new unit combines scalping, mixing, grinding and bagging operations into one machine which occupies only 11 x 11 sq. ft. of floor space. It is claimed to provide easier handling,

requiring only two workmen and making possible an output up to 4 one-ton batches per hour.

The new mill, it is said, requires no special installation—anyone who can handle a wrench can bolt together the 3 pre-assembled sections in half a day. Also important is the fact that any 4-inch concrete floor will support the Uni-Feed Mill; expensive special foundations are not required.

A. E. Poulsen, president of the firm, describes the Uni-Feed Mill's main advantage as a streamlining of standard milling procedures and conveying. This eliminates time lags.

"The new mill is so efficient it even amazes us," says Poulsen. "With the Uni-Feed Mill, you put grain or feed in one end, it goes through four operations and into a bag at the other end. Nothing could be simpler or easier to fit into a floor plan."

Poulsen points out that the Uni-Feed Mill is designed for feed producers who may now turn out up to 750 tons of feed per month with half the usual plant and machinery investment.

### MOORE DRY DOCK BUILDS PILOT FEED MILL

A pilot feed mill, consisting of barley roll, grinder, and other machinery, has been installed at California Polytechnic College at San Luis Obispo, Calif.

The plant will be used by members of the college staff and students for experimental and educational work. Design, construction and machinery installation was by the Industrial Machinery Division of Moore Dry Dock Co., Oakland, Calif.

**YOU'LL FIND "NU-HY" BUCKETS EVERYWHERE  
...RENDERING OUTSTANDING PERFORMANCE**



This bucket is scientifically built and answers the need for the "tops" in elevator leg efficiency. It carries heaping loads—picks up grain gently—discharges smoothly and efficiently. No backlegging.

Learn how you can increase your elevator leg capacity by changing over to NU-HY'S. Write for Capacity Analysis Form No. 76. We can show you how to improve conditions without costly alterations.



IN CANADA: Manufactured and sold under license by Sullivan Mill Equipment, Ltd., 637 Davenport Road, Toronto, Ontario.

**Screw Conveyor Corporation**  
707 HOFFMAN ST. HAMMOND, IND.  
ENGINEERS HAMMOND MANUFACTURERS  
TRADE MARK REG. PRODUCTS U.S. PAT. OFFICE





**THE FACT STILL  
REMAINS  
THAT  
SUPERIOR ELEVATOR  
CUPS  
ARE  
MADE STRONGER  
WILL  
LAST LONGER  
HAVE  
GREATER CAPACITY**

and will operate more efficiently  
at less cost than other elevator cups.

**"DP" - "OK"  
"CC" - "V"**

write to

**K. I. WILLIS  
CORPORATION  
MOLINE, ILLINOIS**

for names of distributors  
and analysis form No. 20

**RAETHER RECOVERS**

Following the New Orleans SOGES Convention, E. J. Raether, Asst. Supt., Elevator Operations, Farmers Union Grain Terminal Assn., went to Miami for a rest of 15 days. He was taken ill with a virus infection of the lungs and spent nearly the whole time in a Miami hospital. However, he did get about 3 days to enjoy the Florida sunshine and his recovery was complete.

**CARGILL CONSOLIDATES  
GRAIN OPERATIONS**

Cargill, Inc., Minneapolis, recently announced the consolidation of all its grain activities into a single grain division, to become effective June 1.

L. L. Crosby, vice president in charge of the company's country divi-

sion, will become a member of the Cargill executive staff where he and R. C. Woodworth will jointly conduct the company's public relations. Mr. Crosby will also make use of his experience with his former division by acting in an advisory capacity on all of the company's grain activities in the areas of grain production.

**NEW SOGES MEMBERS**

*Up to March 31, 1950*

Alvern W. Sauter, Grain Div., Land-o'-Lakes Creamery, Minneapolis, Minn.

Roy H. Faleide, J. B. Ehrsam & Sons Mfg. Co., Chicago, Ill.

(T) John Cmar, Great Lakes Supply Co., Chicago, Ill. (Took W. J. McDillon's job)

Waldo P. Kapsa, Amko Erectors & Assoc., Chicago, Ill.

William J. Kerr, Hewitt Rubber Div., Hewitt-Robins, Inc., Chicago, Ill.

Kurt Aspman, American Maize Products, Roby, Ind.

(R) Oscar Bergsmark, Ladish Malt Co., Jefferson Junction, Wis.

John J. Witt, Goodyear Rubber Co., Kansas City, Mo.

J. B. Ehrsam & Sons Mfg. Co., Enterprise, Kans.

(T) E. E. Beatty, J. C. Kintz Co., Cedar Rapids, Iowa, (Replaced Jake Kintz)

(T) John W. Jorgensen, Globe Elevator, F. H. Peavey & Co., Duluth, Minn.

Stanley A. Johnson, James Stewart Corp., Chicago, Ill. (Replaced John Maki)

Rex E. Yocum, Seedburo Equipment Co., Chicago, Ill.

Albert J. Strange, P. R. R. Girard Point Grain Elevator, Philadelphia, Pa.

(R) C. E. Hackleman, Continental Grain Co., Galveston, Texas.

Stan. S. Cederstrand, Aug. Cederstrand Co., Minneapolis, Minn.

Wilhelm A. Melchior, W. A. Melchior, Consultant, Chicago, Ill.

(T) Floyd O. Steenson, Monarch Elevator, F. H. Peavey & Co, Minneapolis, Minn. (Replaced John Enroth)

L. J. Carson, Link-Belt Co., Minneapolis, Minn.

**CLASSIFIED**

**SITUATION WANTED:** Experienced (23 yrs.) superintendent to capably handle terminal or mill elevator. Age 44, good health and can furnish excellent character references and ability recommendations. Address: G250, c/o GRAIN, 327 S. LaSalle St., Chicago (4) Ill.

**SITUATION WANTED** — Well-experienced maltster and grain elevator superintendent for brewery or elevator. Excellent background with A-1 references. Will start at once. Address: 5G50, c/o GRAIN, 327 S. LaSalle St., Chicago (4) Ill.

**WANTED** — Experienced elevator and plant superintendent for 250,000 bu. terminal house in Midwest operating flour mills and grain drier. Man selected must be familiar with all phases. Excellent opportunity. Salary open. Address 4G50, c/o GRAIN, 327 S. LaSalle St., Chicago (4) Ill.

**WANTED**—Efficient superintendent for grain elevator located in smaller Midwestern terminal area. Must know operational functions and possess A-1 references. Splendid opportunity for the right man. Address 3G50, c/o GRAIN, 327 S. LaSalle St., Chicago (4) Ill.

Emery Metzger, H. M. Shanzer Company, Lake Charles, La.

(R) Bernard E. Friel, Research Products Co., Kansas City, Mo.

(T)-Transfer

(R)-Reinstated

**KINTZ CO. HAD BOOTH**

In the list of Exhibitors at the SOGES Convention, published in the March issue of GRAIN, the name of J. C. Kintz Co., Cedar Rapids, Iowa, was inadvertently omitted. We're glad to make the correction here. E. E. Beatty was in charge of the booth.

**THE MAIL BAG**

**BARLEY AND OATS IN SOUTH**

Dear Editor: Would like to have some experienced readers give me some information on storing and caring for oats and barley in Southern sections of the country.—HARRY C. FUNK, Anderson, S. C.

**BETTER BRUSHES FOR EVERY USE!**

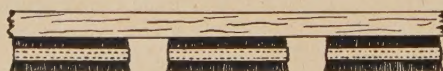


**STAR**

**Warehouse Push Broom**

This is the broom that is used by most large terminal elevators for sweeping grain out of box cars.

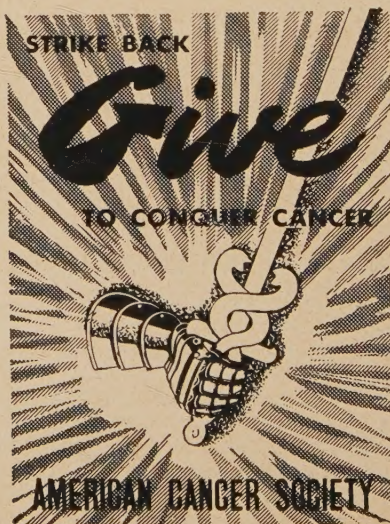
**Quality Separator Brushes**



We can furnish highest quality separator brushes for any machine.

**WRITE TODAY FOR  
FURTHER INFORMATION**

**FLOUR CITY BRUSH COMPANY MINNEAPOLIS 15, MINN.**





## IN THE HOPPER

Bjorn: "You don't like that foreman much, do you?"

Bjornson: "Naw. If he had his conscience taken out, it'd be a minor operation."

"Hey, what are you doing?" yelled the foreman.

"I'm just sharpening a pencil," answered the bricklayer.

"Well, don't let anybody see you. That's a carpenter's job, you know."

Hunter (boring company with his tales): "And while wandering around the native village, I spotted a leopard."

Listener: "Now I know he's a liar. They come that way."

"If you kiss me I'll call a member of my family," she warned.

So he kissed her.

"Bro-ther!" she whispered.

Advertisement in a Manitoba (Canada) paper:

Farmer, aged 38, wishes to meet girl around 30 years old who owns a tractor. Please enclose picture of tractor.

At the tender age of 6, the well known poet, Amy Lowell, enjoyed the distinction of having a portion of one of her letters quoted in a national magazine. Writing to her father, she signed the letter, "Your loving son."

When the father saw the child, he said, "For goodness sake, Amy, why did you write 'son' in your letter?"

"Because," she finally confessed, "I couldn't spell daughter."

A professor, who suspected his class was drowsing off on him, decided to catch everyone off base. So he suddenly dropped off into double talk.

"You then take the loose sections of fendered snolg and gwelg them—being careful not to overheat the broughtabs. Then extract and wampf them gently for about a time and a half. Fwengle each one twice, then swiftly dip them in blinger (if handy). Otherwise discriminate the entire instrument in twetchels. Are there any questions?"

"Yes," came a sleepy voice from the rear. "What are twetchels?"

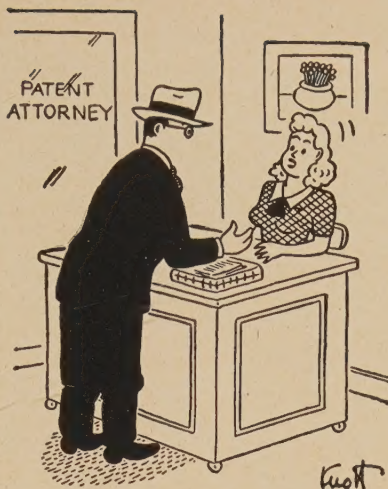
"She often complains of how little he has to wear."

"Yeh?"

"Well, last night at the dance—she was wearing it."

Two revelers in a bar were discussing life.

"I had the funniest dream last night," said one. "I dreamed that suddenly about a thousand little men were dancing on top of my body. They had pink caps and green suits and funny red boots that curled up in the front."



"It's about a new type of vanishing cream I've invented."

"Yes," agreed the other, "and there was a tinkly little bell at the toe of each of the boots."

"How do you know that?" said the first reveler in suprise.

"There are a couple of them still sitting on your shoulder," said the other.

One of Billy Rose's best yarns is about Jimmy Durante on a fishing trip. Durante was awakened at 3 a.m. to drive out to the ocean. "On the way to the garage, I noticed he was smacking every tree he passed," reports Rose. "When I'm awake," Schnozzola explained, "no boid sleeps."

A man answering an ad for a chauffeur's job was being examined by the car owner. He was asked if he had traveled much in other states.

"Yes sir," replied the prospective chauffeur.

"All right," said the car owner, handing him a map. "let's see you fold it."

"F-e-e-t," the teacher exclaimed. "What does that spell, Albert?"

"I dunno."

"Well, what is that a cow has four of, and I have but two?"

So—Albert told her.

He could neither read nor write, but when a distant relation died and left him a small fortune he started to make a splash. He acquired a check book, but instead of signing his name on checks he put two crosses, and the bank paid.

Then one day he handed the cashier a check signed with three crosses.

"What's this?" demanded the cashier. "You've put three crosses here."

"I know," was the reply, "but my wife's got social ambitions. She says I must have a middle name."

Two Irishmen were watching an aeronaut doing the nose dive and other fearsome stunts high in the air.

"Pat, how would ye like to be up there in that airplane?"

"Well, Mike, I'd rather be up there in it, than up there widout it."

The drunk weaved up the street and staggered into the beauty salon.

"Hello," he said, "Ish thish the beauty parlor?"

"Yes, sir, it is," replied the receptionist.

"Well, bring me out one," said the drunk. "I'm lonesome."

Molly: "How come you call your boy friend Pilgrim?"

Mary: "'Cause every time he calls he makes a little progress."

Everyone can give pleasure to others. Some achieve this by entering a room and others by leaving it.

### Facts No American Should Ever Forget The Average Worker's Weekly Salary Buys:

IN RUSSIA	IN GREAT BRITAIN	IN U.S.A.
17 lbs. of Sugar	282 lbs. of Sugar	500 lbs. of Sugar
5 lbs. of Butter	84 lbs. of Butter*	68 lbs. of Butter
25 quarts of Milk	133 quarts of Milk	276 quarts of Milk
20 loaves of Bread	151 loaves of Bread	400 loaves of Bread
12 lbs. of Beef	87 lbs. of Beef†	82 lbs. of beef

\* Rationed to 3 ounces per week per person.

† Rationed to 17 cents worth per week per person.





## It Costs Too Much!

**Y**ES, That's Right!! . . . It Costs Far Too Dearly To Permit Your Plant Restoration Work To Be Delayed Even a Single Season . . . Those With Costly Past Experience Know That The Rate Of Deterioration ZOOMS Upwards With The Passing Of Each Successive Year . . . Hence The Cost Of An Intelligent Periodic Building Maintenance Program Quickly And Profitably Liquidates Itself IN EVERY WAY!

**Y**OU, Too, Will Find That Protecting Your Investment Is Especially Wise, Particularly When You Can Depend So Completely Upon . . .



Every Day The Elements Are Gnawing Away at Your Properties, Eating Up and Tearing Down Your "House Of Cards." Why Not Protect Yourself As Best You Can By Consulting With . . .

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